

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number
WO 2004/001403 A1

(51) International Patent Classification⁷: **G01N 27/02**,
27/22, 33/543, C12Q 1/68

(21) International Application Number:
PCT/BE2003/000109

(22) International Filing Date: 24 June 2003 (24.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02447122.9 24 June 2002 (24.06.2002) EP

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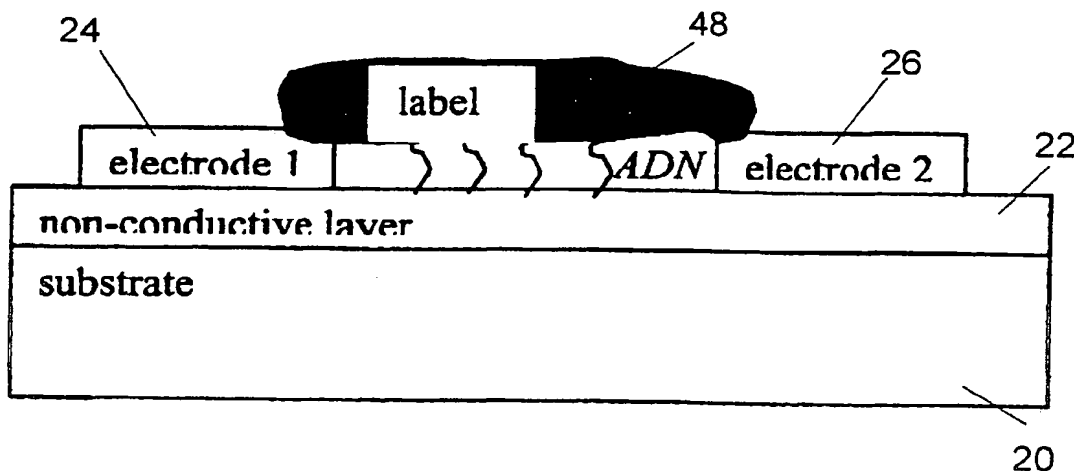
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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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(54) Title: METHOD AND DEVICE FOR HIGH SENSITIVITY DETECTION OF THE PRESENCE OF DNA AND OTHER PROBES



(57) Abstract— The present invention provides a method for capacitive detection of the presence of target sample on a substrate, which comprises the steps of: binding a target sample to selective binding sites on the substrate, the target sample being directly or indirectly labeled with conductive labels, and sensing the presence of the bound conductive labels to a binding site to thereby determine the presence of the target sample. The sensing step is carried out by a capacitive detection of the presence of the conductive labels. The present invention also provides a capacitive sensor device for determining the presence of a target sample. Conductive labels are directly or indirectly couplable to the target sample. The capacitive sensor device comprises a substrate having attached thereto a binding site able to selectively bind a target sample, a capacitive sensor element, and sensing circuitry for determining the presence of a target sample bound to the binding site by application of electrical signals to a capacitive sensor element. The capacitive sensor element comprises a set of at least two electrodes with non-conductive surfaces in a region associated with the binding site.